In the Specification:

Please substitute the following paragraphs for the corresponding paragraphs beginning at the indicated location in the specification as originally filed.

Page 4, line 2+:

However, this structure presents two points of potential instability: the bond of the glass tube to the optical fibers and the glass tube, itself. Neither of these effects has been experimentally quantified or even to be reasonably predictable in progress. In general, the instability of the bond is much the smaller of the two since the distance over which the instability can occur is generally very small. On the other hand, Fused silica glass is known to be subject to viscous flow or creep when subjected to even small forces over an extended period of time which can change the geometry of the tube in a direction tending to relieve forces thereon and, consequently, the sensor gap length. Further, fused silica glass will invariably exhibit variation in density which largely corresponds to cooling rate and will densify or increase in density under conditions of elevated temperature and/or pressure. Without wishing to be held to any particular theory underlying this phenomenon, fused silica is thought to contain microscopic voids generated by contraction during cooling during the formation of the tube, the bonding process or both. These voids may spontaneously collapse over time in a process referred to as volume consolidation and which can be accelerated by temperature and/or pressure; resulting in unpredictably altered geometry of the tube relied upon to maintain sensor gap length.

Page 6, line 23+:

The problem of viscous flow and volume consolidation (sometimes collectively referred to as creep) of the fused silica or other material in fiber optic sensors is not limited to tube-based sensors but, in general, the problem will extend to any other types of sensors using fused silica or other material having similar attributes of viscous flow and/or volume consolidation, depending on the criticality of the dimensional stability of the component in which fused silica is used and the criticality of the measurement to be made. As such, tube-based sensors, diaphragm-based sensors, V-groove sensors and the like, will all suffer the same problem as long as they include elements made of glass.

Page 11, line 4+:

Figure 2A illustrates the effects of stress or strain applied to the structure of Figure 1 in the direction of the axis of tube 20. In this case, the magnitude of the stress or strain causes elastic elongation of the tube by ΔL and the tube will contract to its original dimensions if the stress or strain is removed. If, however, the stress or strain is persistent, viscous flow or creep will occur and a persistent elongation of the tube 20 will occur. That is, if the stress is removed after viscous flow occurs, the tube 20 will not return to its original dimensions and will have a length approximating $L+\Delta L$ while, if the stress remains, the length of the tube will continue to increase toward $\Delta L'$ due to the viscous flow and increasing strain will be indicated even though a measurement of stress will drift. Other scenarios and their effects on the sensor will be evident to those skilled in the art. In summary, while strain will be accurately indicated, the measurement of associated stress will drift due to viscous flow or creep. This

effect may be partially counteracted by volume consolidation or volume consolidation may be inhibited by the stress and/or strain.

Page 12, line 13+:

Referring now to Figure 3, the invention solves these problems by using a tube 120 of a crystalline material and preferably monocrystalline material (indicated by cross-hatching in Figure 3. Crystalline material presents a highly stable internal crystal lattice structure which is not subject to viscous flow or creep and would be expected to be free from voids ~~and substantially maximum density~~, as discussed above, which may give rise to volume consolidation, and substantially maximum density. Therefore, a monocrystal tube is not subject to persistent dimensional changes or resultant sensor output drift due to viscous flow and/or volume consolidation which cannot be distinguished from a change in the measured parameter by telemetry system 200 or the like. Further, a monocrystalline structure does not present grain boundaries along which other materials may more easily diffuse and possibly react with the tube material.